

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Remediation, Bureau of Technical Support
625 Broadway, 11th Floor, Albany, NY 12233-7020
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www.dec.ny.gov

April 30, 2015

Mr. Walter E. Mugdan, Director
Emergency and Remedial Response Division
USEPA, Region II
290 Broadway
Edison, NJ 10007-1866

Re: Request for Removal Action Evaluation
Town of Niagara Highway Garage,
7105 Lockport Road
Niagara (T), Niagara Co.
DEC Site #932163

Dear Mr. Mugdan:

We request that the United States Environmental Protection Agency (USEPA) evaluate the property at 7105 Lockport Road in the town of Niagara, Niagara County ("site") for a removal action. As discussed below, the presence various pesticide-related compounds (e.g., lindane-related compounds, beta-hexachlorocyclohexane (BHC)) on the ground surface and subsurface soils on the site presents risks to the environment and human health in the area of the site.

The Niagara Highway Garage Site is located in a rural area at 7105 Lockport Road in the town of Niagara, Niagara County. The site is approximately 0.70 miles east of the intersection of Military Road and Lockport. The main site features consists of a material storage area for stone, pipe, and other construction materials that are being used by the Town of Niagara's Highway Department. The site is located at the rear of the property, behind the Highway Garage Building and it is bounded to the south by an active rail line. Drainage is provided by surface water ditches in the vicinity of the yard.

The site is currently active, and is zoned for municipal use. The surrounding parcels are currently used for a combination of commercial, residential, and agricultural uses. The nearest residential area is located adjacent to the Town Hall building approximately 450 feet west of the site. There is also additional housing located directly south of the site on the other side of the rail line tracks. The waste is currently exposed on the surface of the yard.

During recent construction activities on the site, an odor in the rear (south) of the Town Garage property was noted. In response, the Town Engineer (Clark Patterson Lee) installed five test pits that were dug along the south side of their facility. Four of the five test pits encountered between 8 and 12 inches of road sub-base stone overlying one to two feet of fill materials. The fill contained slag, bricks, and other construction-related debris, intermixed with a white filter-cake like material with a significant chemical odor observed. Samples were collected of the fill material and it was analyzed for TAL Metals, TCL Volatiles and TCL Semi-Volatiles, including tentatively identified compounds (TICs). The analyses detected elevated several TICs in the BHC family (primarily Lindane). There is no knowledge or documentation of pesticides or other waste materials disposed of in this area by either the Town or others.

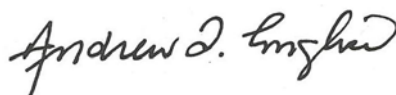
DEC is currently conducting a site characterization of the site which is expected to be completed in May 2015. Preliminary information indicates that the waste on the site appears to be very well defined, covering an area approximately 100' x 200' x 5' in depth. Concentrations of BHCs in both surface and subsurface soils is very elevated and suggested the disposal of a concentrated waste product at the site. The enclosed information provides background on the degree and extent of contamination.

To prevent contact with the exposed wastes, DEC plans to do an interim remedial measure (IRM) and cover the affected area with filter fabric and stone as soon as the weather conditions permits. Preliminary discussions with the Town of Niagara has indicated that they do not have the funds available to complete the required long-term investigation and cleanup of the property.

In light of the potential threats to human health and the environment, we request that USEPA evaluate the site for a removal action. A site location map and additional support information are enclosed that depict the current conditions of the site.

If you have any questions or need additional information, please contact Mr. Dennis Farrar at (518) 402-9543.

Sincerely,



Andrew J. English, P.E.
Director
Bureau of Technical Support

Enclosures

ec w/ enc: J. Rotola - USEPA, Region II, Edison, NJ
E. Mosher - USEPA, Region II, Edison, NJ
G. Zachos - USEPA, Region II, Edison, NJ
J. Daloia - USEPA, Region II, Edison, NJ
D. Graham - USEPA, Region II, Edison, NJ
M. Forcucci, NYSDOH – Buffalo
R. Schick, NYSDEC, Albany, NY

G. Sutton, NYSDEC, Regional Spill Engineer, Region 9
M. Hinton, NYSDEC, Project Manager, Region 9
J. Strickland, NYSDEC, Regional Engineer, Region 9
D. Farrar, NYSDEC, Albany, NY

FIGURE 1
SITE LOCATION MAP

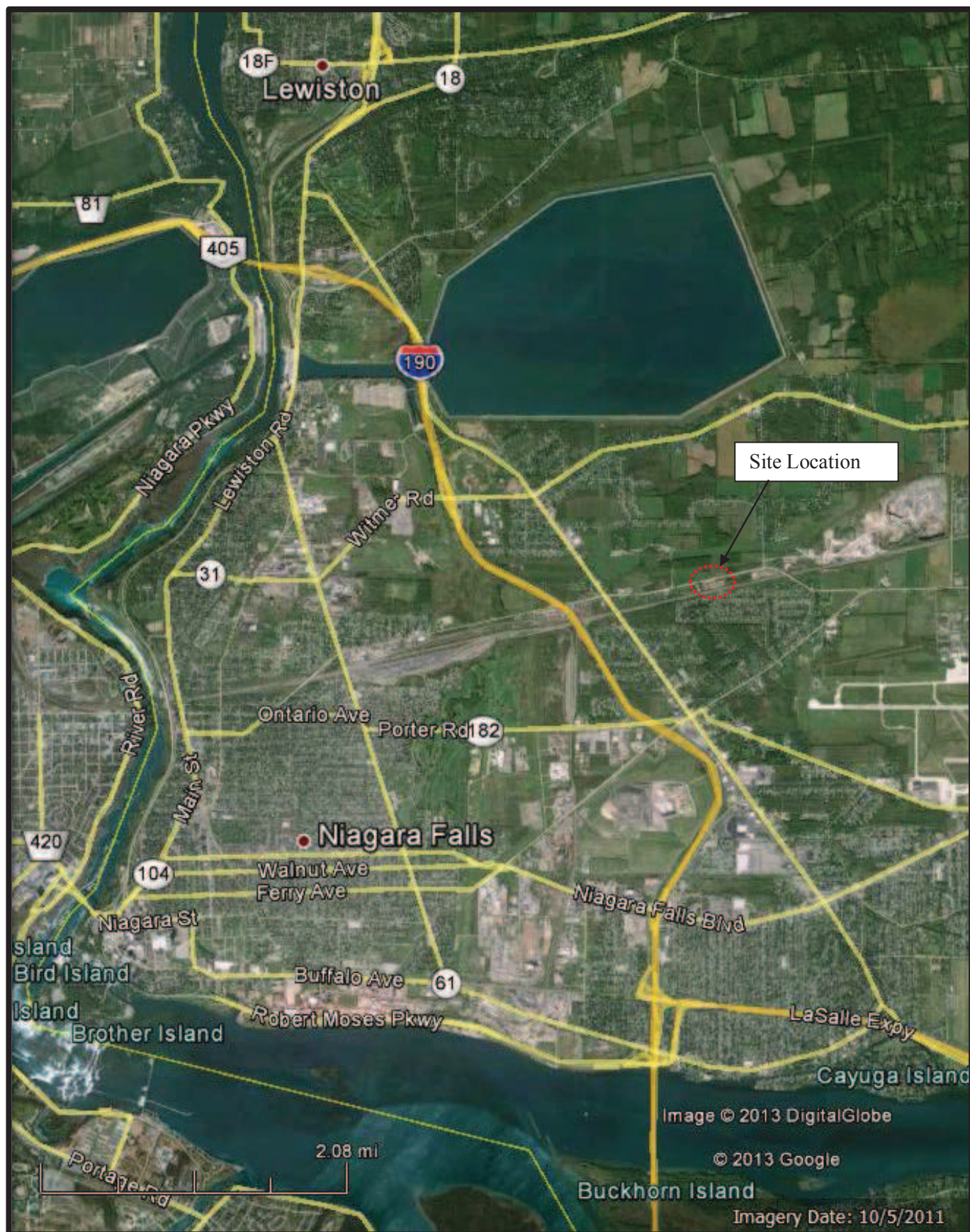
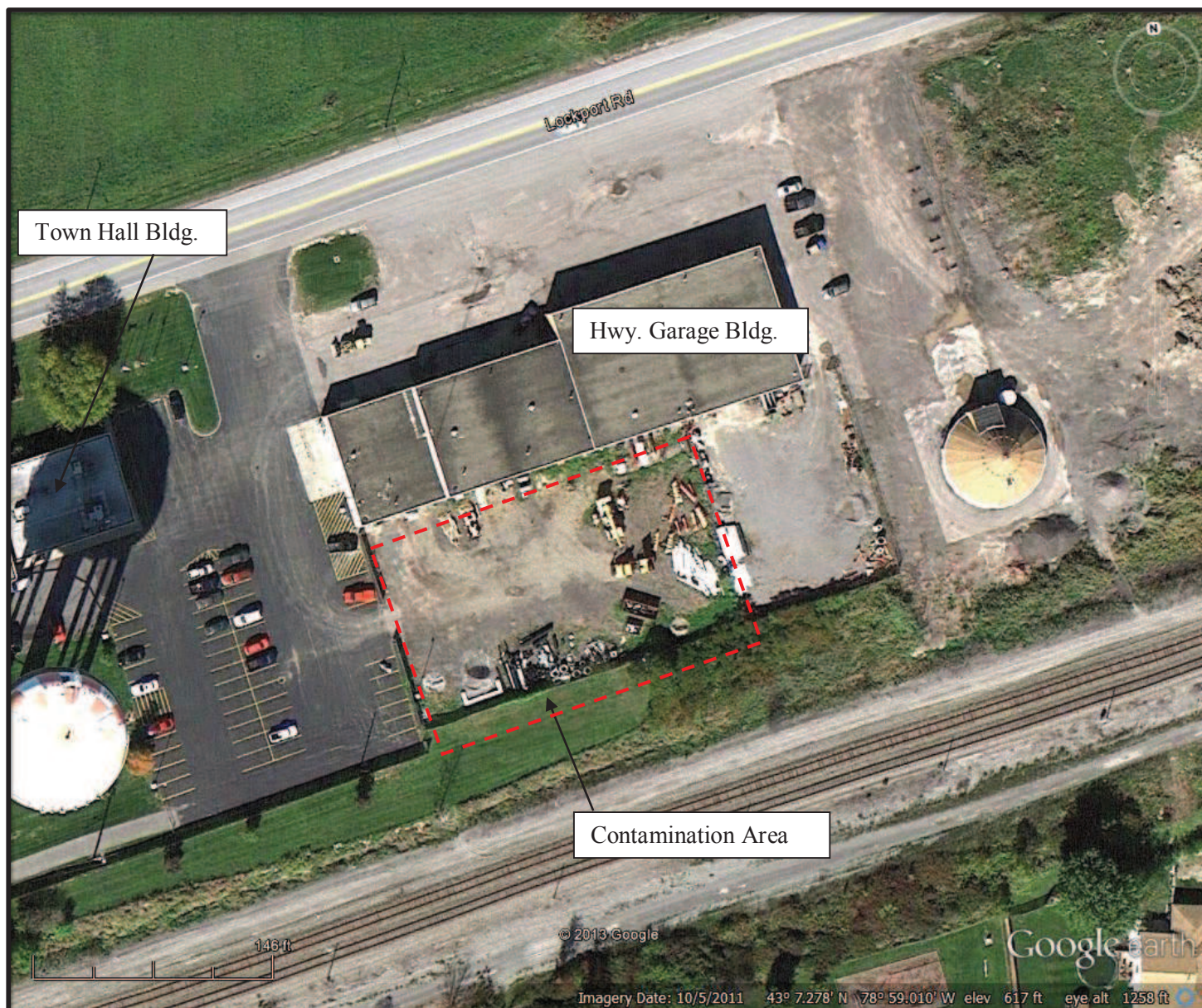


FIGURE 2
SITE MAP



SITE PHOTOS





NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF ENVIRONMENTAL REMEDIATION
Site Briefing Report



Site Code	932163	Site Name	Niagara Highway Garage		
Classification	P	Address	7105 Lockport Road		
Region	9	City	Niagara Falls	Zip	14305
Latitude	43.1210	Town	Niagara		
Longitude	-78.9836	County	Niagara	Project Manager	Michael Hinton
Disposal Area	Dump			Estimated Size	0.5000

Site Description

Location: The Niagara Highway Garage Site is located in an rural area at 7105 Lockport Road in the town of Niagara, Niagara County. The site is approximately 0.70 miles east of the intersection of Military Road and Lockport.

Site Features: The main site features consists of a material storage area for stone, pipe and other construction materials that are used by the Town of Niagara's Highway Department. The site sits at the rear of the property, behind the Highway Garage Building and it is bounded to the south by an active rail line. Drainage is provided by surface water ditches in the vicinity of the yard.

Current Zoning and Land Use: The site is currently active, and is zoned for municipal use. The surrounding parcels are currently used for a combination of commercial, residential, and agricultural uses. The nearest residential area is located adjacent to the Town Hall building approximately 450 feet west of the site. There is also additional housing located directly south of the site on the other side of the rail line tracks.

Past Use of the Site: During recent construction activities on the site, an odor in the rear (south) of the Town Garage property was noted. In response the Town Engineer (Clark Patterson Lee) installed five test pits that were dug along the south side of their facility. Four of the five test pits encountered between 8 and 12 inches of road sub-base stone overlying one to two feet of fill materials. The fill contained slag, bricks and other construction-related debris, intermixed with a white filter-cake like material with a significant chemical odor observed.

Samples were collected of the fill material and it was analyzed for TAL Metals, TCL Volatiles and TCL Semi-Volatiles, including tentatively identified compounds. The analysis also detected elevated several tentatively identified compounds (TICS) in the BHC family.

There is no knowledge or documentation of pesticides or other waste materials disposed of in this area by either the Town or others. A determination of the extent of the waste, including further analysis of the material, is currently on-going.

In July 2014 the Department initiated a Site Characterization Study to determine the nature and extent of the contamination on site. The results of that study are due in early 2015.

Site Geology and Hydrogeology: While the specific information is limited at this time, general Niagara County geology and the test pit information would suggest that this area is underlain by a dense layer of alluvial clay inhibiting groundwater flow and contaminant transport. Limestone bedrock is located at

4/28/2015

approximately 10 bgs.

Contaminants of Concern (Including Materials Disposed)	Quantity Disposed
1,2-DICHLOROBENZENE	UNKNOWN
1,4-DICHLOROBENZENE	UNKNOWN
ALPHA-BHC	UNKNOWN
BENZENE	UNKNOWN
BETA-BHC	UNKNOWN
DELTA-BHC	UNKNOWN
LINDANE	UNKNOWN

Analytical Data Available for : Groundwater, Soil

Applicable Standards Exceeded for: Groundwater, Soil

Site Environmental Assessment

The sample results indicated low levels of Tri, Di & Tetrachlorobenzenes (<10 ppm ea.) in the subsurface fill material, the analysis also detected elevated several tentatively identified compounds (TICS) in the BHC family. These compounds included Cyclohexane, Hexachlorocyclohexane and Lindane at a total estimated concentration of 1585 ppm with the majority being lindane at an estimated concentration of 1330 ppm. This value exceeds the Part 375 commercial use SCO of 9.2 ppm or the Ecological Protection value of 6 ppm.

Site Health Assessment

As information for this site becomes available, it will be reviewed by the NYSDOH to determine if site contamination presents public health exposure concerns.

Remedy Description and Cost

Remedy Description for Operable Unit 01

Total Cost

Capital Cost

OM&M Cost

Issues / Recommendations

Owners

Operators

Current Owner(s)

Sylvia Virtuoso

Town of Niagara

7105 Lockport Rd

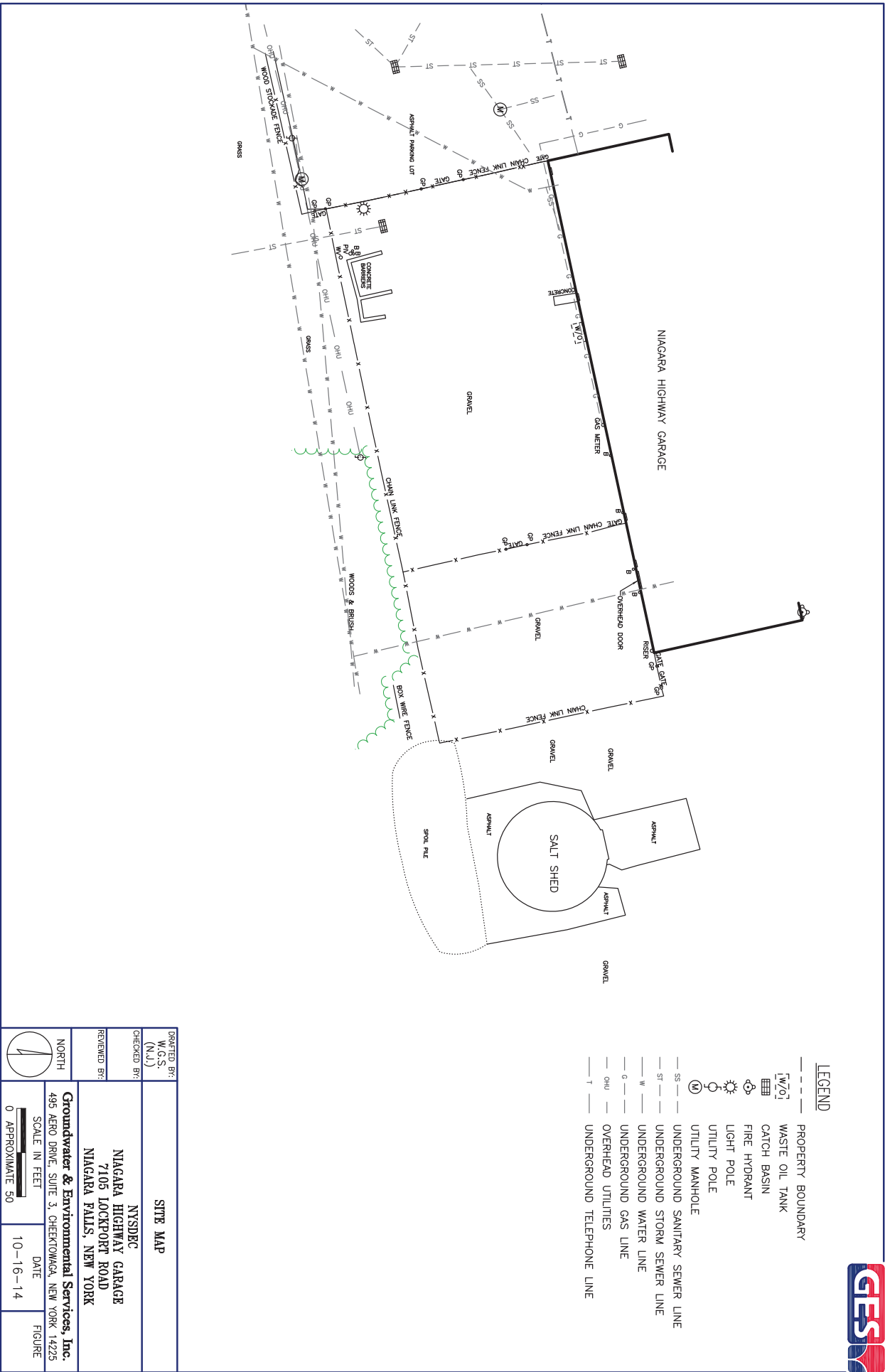
Niagara Falls NY 14305

Lee Wallace

Town of Niagara

7105 Lockport Rd

Niagara Falls NY 14305



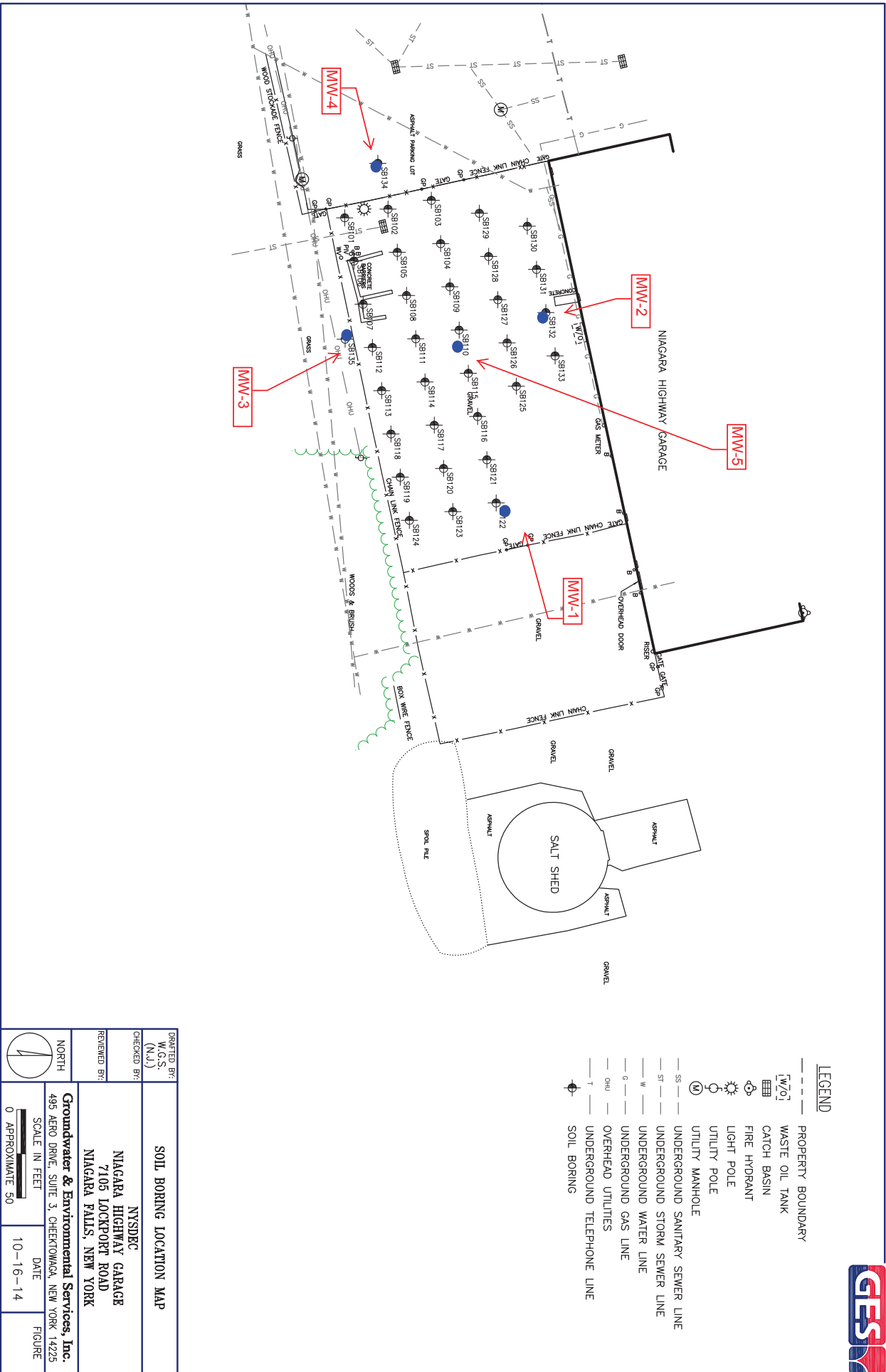


Table 1
Soil Analytical DataPage 1 of 2

Table 1
Soil Analytical Data[illegible]

Notes:
 U = below laboratory detection limits
 NA = Not Analyzed
 NC = Not Collected
 lb/g = feet below grade
 ppmV = parts-per-million by volume
 mg/kg = milligrams per kilogram
 ug/kg = micrograms per kilogram
 CAS = Chemical Abstracts Services

^{**}Title 6 of the Official Compilation of New York Codes, Rules and Regulations Part 375, Restricted Use Soil Cleanup Objectives for Residential Use: (parts-per-billion by volume, except for Metals, which are in parts-per-million by volume)



Monitoring Well

ID NO. **GMW-1**

Groundwater and Environmental Services, Inc.

Page 1 of 1

PROJECT: NYSDEC Niagara Highway Garage SURFACE ELEV.: NA TOTAL DEPTH: 9'
ADDRESS: 7105 Lockport Road, Niagara Falls, NY WATER DEPTH NA CASING EL.: NA
JOB NO. 0901588 BOREHOLE DIA.: 6" WELL DIA.: 2"

Logged By: Nicole Lindner Drilling Method: Auger (4 3/4" ID)
Dates Drilled: 11/3/14 Sampling Method: NA
Drilling Company: TREC Environmental Inc. Soil Class. System: NA
Drill Rig Type: Geoprobe 6620 DT Field Screening: NA

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec- overy	SAMPLE LITHOLOGY	Stratigraphy	Comments	COMPLETION DETAILS
0	NA	NA	NA	NA	NA			Road Box (0-0.5')
								Bentonite Seal (0.5-3.5')
								2" Sched 40 PVC Riser (0.3-4')
								Sand Pack (3.5-9')
5								2" Sched 40 PVC 0.010 slot Screen (4-9')
10							Well set at encountered bedrock (9' below ground surface)	

Location:

Northing/Latitude: NA
Easting/Longitude: NA
Horizontal Datum: NA
Vertical Datum: NA

General Comments:

ID = Inner Diameter
HSA = Hollow Stem Auger
NA = Not Applicable / Not Recorded
Template: Soil-Well Boring

Symbol Key:

Apparent Water Level ▼
Lab Sample Location ☒

GMW-1

p. 1 of 1



Monitoring Well

ID NO. GMW-3

Groundwater & Environmental Services, Inc.

Page 1 of 1

PROJECT: NYSDEC Niagara Highway Garage SURFACE ELEV.: NA TOTAL DEPTH: 6.5'
ADDRESS: 7105 Lockport Road, Niagara Falls, NY WATER DEPTH: NA CASING EL.: NA
JOB NO. 0901588 BOREHOLE DIA.: 6" WELL DIA.: 2"

Logged By: Nicole Lindner Drilling Method: Auger (4 3/4" ID)
Dates Drilled: 11/4/14 Sampling Method: NA
Drilling Company: TREC Environmental Inc. Soil Class. System: NA
Drill Rig Type: Geoprobe 6620 DT Field Screening: NA

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec.	SAMPLE LITHOLOGY	COMMENTS	COMPLETION DETAILS
0	NA	NA	NA	NA	NA		Road Box (0-0.5')
							Bentonite Seal (0.5-3')
							2" Sched 40 PVC Riser (0.3-3.5')
						No evidence of groundwater observed	
5							Sand Pack (3-6.5')
							2" Sched 40 PVC 0.010 slot Screen (3.5-6.5')
						Well set at encountered bedrock (6.5' below ground surface)	



Location:

Northing/Latitude: NA
Easting/Longitude: NA
Horizontal Datum: NA
Vertical Datum: NA

General Comments:

ID = Inner Diameter
HSA = Hollow Stem Auger
NA = Not Applicable / Not Recorded

Symbol Key:

Apparent Water Level 
Lab Sample Location 

GMW-3

p. 1 of 1



Monitoring Well

ID NO. GMW-4

Groundwater & Environmental Services, Inc.

Page 1 of 1

PROJECT: NYSDEC Niagara Highway Garage SURFACE ELEV.: NA TOTAL DEPTH: 7'
ADDRESS: 7105 Lockport Road, Niagara Falls, NY WATER DEPTH: NA CASING EL.: NA
JOB NO. 0901588 BOREHOLE DIA.: 6" WELL DIA.: 2"

Logged By: Nicole Lindner Drilling Method: Auger (4 3/4" ID)
Dates Drilled: 11/4/14 Sampling Method: NA
Drilling Company: TREC Environmental Inc. Soil Class. System: NA
Drill Rig Type: Geoprobe 6620 DT Field Screening: NA

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec.	SAMPLE LITHOLOGY	COMMENTS	COMPLETION DETAILS
0	NA	NA	NA	NA	NA		Road Box (0-0.5')
							Bentonite Seal (0.5-3.5')
							2" Sched 40 PVC Riser (0.3-4')
						No evidence of groundwater observed	
5							Sand Pack (3.5-7')
						Well set at encountered bedrock (7' below ground surface)	2" Sched 40 PVC 0.010 slot Screen (4-7')



Location:

Northing/Latitude: NA
Easting/Longitude: NA
Horizontal Datum: NA
Vertical Datum: NA

General Comments:

ID = Inner Diameter
HSA = Hollow Stem Auger
NA = Not Applicable / Not Recorded

Symbol Key:

Apparent Water Level 
Lab Sample Location 

GMW-4

p. 1 of 1



Monitoring Well

Groundwater & Environmental Services, Inc.

ID NO.: **GMW-5**

Page 1 of 1

PROJECT: **NYSDEC Niagara Highway Garage**
ADDRESS: **7105 Lockport Road, Niagara Falls, NY**
JOB NO.: **0901588**

SURFACE ELEV.: **NA**
WATER DEPTH: **NA**
BOREHOLE DIAM.: **6"**

TOTAL DEPTH: **10.2'**
CASING ELEV.: **NA**
WELL DIAM.: **2"**

Logged By: **Nicole Lindner**
Dates Drilled: **11/4/14**
Drilling Company: **TREC Environmental Inc.**
Drill Rig Type: **Geoprobe 6620 DT**

Drilling Method: **Auger (4 3/4" ID)**
Sampling Method: **NA**
Soil Class. System: **NA**
Field Screening: **MiniRAE 2000 PID w/10.6 eV Lamp**

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec.	SAMPLE LITHOLOGY	COMMENTS	COMPLETION DETAILS
0	0-2'	NA	NA	100%	Gravel: Gravel		Road Box (0-0.5')
	2-3.5'	NA	NA	100%	Fill: Fill - white amorphous material		Bentonite Seal (0.5-2') 2" Sched 40 PVC Riser (0.3-2.7')
	3.5-4'	0.2	NA	100%	Clay: Clay, hard, borwn, dry	Samples collected in 6 inch intervals from 3.5' to 10.2'	Sand Pack (2-4.5') 2" Sched 40 PVC 0.010 slot Screen (2.7-4.3')
	4-4.5'	0.5	NA	100%			
	4.5-5'	0.2	NA	100%			
5	5-5.5'	0.1	NA	100%			
	5.5-6'	0.1	NA	100%			
	6-6.5'	0.0	NA	100%			
	6.5-7'	0.2	NA	100%			
	7-7.5'	0.1	NA	100%	Clay: Clay, hard, borwn, wet		
	7.5-8'	0.0	NA	100%			
	8-8.5'	0.0	NA	100%			
	8.5-9'	0.2	NA	100%			Bentonite seal placed from 4.5-10.2' to seal off borehole below constructed well
	9-9.5'	0.1	NA	100%			
10	9.5-10.2'	0.3	NA	100%			

Location:

Northing/Latitude: **NA**
Easting/Longitude: **NA**
Horizontal Datum: **NA**
Vertical Datum: **NA**

General Comments:

ID = Inner Diameter
HSA = Hollow Stem Auger
NA = Not Applicable / Not Recorded

Symbol Key:

Apparent Water Level
Lab Sample Location



Soil Boring






ID NO. SB-101

Groundwater & Environmental Services, Inc.

Page 1 of 1

PROJECT: NYSDEC Niagara Highway Garage SURFACE ELEV.: NA TOTAL DEPTH: 8'
ADDRESS: 7105 Lockport Road, Niagara Falls, NY WATER DEPTH: NA CASING EL.: NA
JOB NO. 0901588 BOREHOLE DIA.: 2" WELL DIA.: NA

Logged By: Eric Popken Drilling Method: Geoprobe (sampling)
Dates Drilled: 9/22/14 Sampling Method: Macro Core
Drilling Company: TREC Environmental Inc. Soil Class. System: Burmister
Drill Rig Type: Geoprobe 6620 DT Field Screening: MiniRAE 2000 PID w/10.6 eV Lamp

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec.	SAMPLE LITHOLOGY	Comments	COMPLETION DETAILS
0	0-6"	NA	NA	100%	 Stone gravel	SB-101 (6"-1.5') sampled for lab analysis	NA
	6"-1.5'	0.0	NA	100%	 Fine to coarse sand, black, moist to wet		
	1.5-4'	0.0	NA	100%	 Silty clay, brown, hard, moist		
	4-6'	0.0	NA	80%	 Silty clay, brown, hard, moist		
5	6-8'	0.0	NA	80%	 Silty sand and gravel, brown, fine to coarse sand, fine to coarse gravel, little clay, moist		

Location:

Northing/Latitude: NA
Easting/Longitude: NA
Horizontal Datum: NA
Vertical Datum: NA

General Comments:

ID = Inner Diameter
HSA = Hollow Stem Auger
NA = Not Applicable / Not Recorded

Symbol Key:

Apparent Water Level ▼
Lab Sample Location ☒

SB-101

p. 1 of 1



Soil Boring

ID NO.: SB-102

Groundwater & Environmental Services, Inc.

Page 1 of 1

PROJECT: NYSDEC Niagara Highway Garage
ADDRESS: 7105 Lockport Road, Niagara Falls, NY
JOB NO.: 0901588

SURFACE ELEV.: NA
WATER DEPTH: NA
BOREHOLE DIAM.: 2"

TOTAL DEPTH: 8'
CASING ELEV.: NA
WELL DIAM.: NA

Logged By: Eric Popken
Dates Drilled: 9/22/14
Drilling Company: TREC Environmental Inc.
Drill Rig Type: Geoprobe 6620 DT

Drilling Method: Geoprobe (sampling)
Sampling Method: Macro Core
Soil Class. System: Burmister
Field Screening: MiniRAE 2000 PID w/10.6 eV Lamp

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec.	SAMPLE LITHOLOGY	COMMENTS	COMPLETION DETAILS
0	0-6"	NA	NA	100%	Stone gravel	SB-101 (6"-2') sampled for lab analysis	NA
	6"-2'	0.0	NA	100%	Fill, black, contain, trace to little white amprphous material, trace debris, slight odor		
	2-4'	0.0	NA	100%	Clay, brown, hard, slight odor, possible slough carried by probe, dry to moist		
	4-6'	0.0	NA	100%	Clay, brown, hard, slight odor, possible slough carried by probe, dry to moist		
5	6-8'	0.0	NA	100%	Silt and sand, brown, fine to coarse sand, fine to coarse gravel, trace clay, moist		

Location:

Northing/Latitude: NA
Easting/Longitude: NA
Horizontal Datum: NA
Vertical Datum: NA

General Comments:

ID = Inner Diameter
HSA = Hollow Stem Auger
NA = Not Applicable / Not Recorded

Symbol Key:

Apparent Water Level
Lab Sample Location



Soil Boring

Groundwater & Environmental Services, Inc.

ID NO.: SB-103

Page 1 of 1






PROJECT: NYSDEC Niagara Highway Garage
ADDRESS: 7105 Lockport Road, Niagara Falls, NY
JOB NO.: 0901588

SURFACE ELEV.: NA
WATER DEPTH: NA
BOREHOLE DIAM.: 2"

TOTAL DEPTH: 10'
CASING ELEV.: NA
WELL DIAM.: NA

Logged By: Eric Popken
Dates Drilled: 9/22/14
Drilling Company: TREC Environmental Inc.
Drill Rig Type: Geoprobe 6620 DT

Drilling Method: Geoprobe (sampling)
Sampling Method: Macro Core
Soil Class. System: Burmister
Field Screening: MiniRAE 2000 PID w/10.6 eV Lamp

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec.	SAMPLE LITHOLOGY	COMMENTS	COMPLETION DETAILS
0	0-2'	0.0	NA	100%	 Fill, gravel, fine to coarse sand, brown to black, trace white amorphous material	SB-103 (0-2') sampled for lab analysis	NA
	2-4'	0.0	NA	100%	 Silty clay, brown, trace organics, hard		
	4-7'	0.0	NA	100%	 Silty clay, brown, trace organics, hard		
5	7-8'	0.0	NA		 Sand, brown, fine to medium sand, trace gravel, moist		
	8-10'	NA	NA		 Sand, brown, fine to medium sand, trace to little gravel, trace to little silt, moist		
10						Refusal - dolomite in shoe	



Location:

Northing/Latitude: NA
Easting/Longitude: NA
Horizontal Datum: NA
Vertical Datum: NA

General Comments:

ID = Inner Diameter
HSA = Hollow Stem Auger
NA = Not Applicable / Not Recorded

Symbol Key:

Apparent Water Level 
Lab Sample Location 



Soil Boring

Groundwater & Environmental Services, Inc.

ID NO. SB-104

Page 1 of 1

PROJECT: NYSDEC Niagara Highway Garage SURFACE ELEV.: NA TOTAL DEPTH: 8'
ADDRESS: 7105 Lockport Road, Niagara Falls, NY WATER DEPTH: NA CASING EL.: NA
JOB NO. 0901588 BOREHOLE DIA.: 2" WELL DIA.: NA

Logged By: Eric Popken Drilling Method: Geoprobe (sampling)
Dates Drilled: 9/22/14 Sampling Method: Macro Core
Drilling Company: TREC Environmental Inc. Soil Class. System: Burmister
Drill Rig Type: Geoprobe 6620 DT Field Screening: MiniRAE 2000 PID w/10.6 eV Lamp

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec.	SAMPLE LITHOLOGY	Comments	COMPLETION DETAILS
0	0-6"	NA	NA	100%	Fill, gravel	Refusal at three feet, passed through on second try (rock) SB-104 (6"-2') sampled for lab analysis	NA
	6"-2'				Sand and gravel, brown to black, fine to coarse sand, trace debris		
	2-4'	0.0	NA	100%	Silty clay, brown, hard		
	4-6'	0.0	NA	100%	Clay, brown, boulders encountered, hard		
5	6-8'	NA	NA	100%	Sand and gravel, brown, fine to coarse sand, fine to coarse gravel, moist		



Location:

Northing/Latitude: NA
Easting/Longitude: NA
Horizontal Datum: NA
Vertical Datum: NA

General Comments:

ID = Inner Diameter
HSA = Hollow Stem Auger
NA = Not Applicable / Not Recorded

Symbol Key:

Apparent Water Level 
Lab Sample Location 

SB-104

p. 1 of 1



Soil Boring

Groundwater & Environmental Services, Inc.

ID NO.: SB-105

Page 1 of 1

PROJECT: NYSDEC Niagara Highway Garage
ADDRESS: 7105 Lockport Road, Niagara Falls, NY
JOB NO.: 0901588

SURFACE ELEV.: NA
WATER DEPTH: NA
BOREHOLE DIAM.: 2"

TOTAL DEPTH: 4'
CASING ELEV.: NA
WELL DIAM.: NA

Logged By: Eric Popken
Dates Drilled: 9/22/14
Drilling Company: TREC Environmental Inc.
Drill Rig Type: Geoprobe 6620 DT

Drilling Method: Geoprobe (sampling)
Sampling Method: Macro Core
Soil Class. System: Burmister
Field Screening: MiniRAE 2000 PID w/10.6 eV Lamp

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec.	SAMPLE LITHOLOGY	COMMENTS	COMPLETION DETAILS
0	0-2'	0.0	NA	100%	Fill, gravel and sand, 8-9" is white amorphous material, large pieces, dry to moist	SB-105 (0-2') sampled for lab analysis	NA
	2-4'	0.0	NA	100%	Clay, brown, hard, dry to moist		
5							

Location:

Northing/Latitude: NA
Easting/Longitude: NA
Horizontal Datum: NA
Vertical Datum: NA

General Comments:

ID = Inner Diameter
HSA = Hollow Stem Auger
NA = Not Applicable / Not Recorded

Symbol Key:

Apparent Water Level
Lab Sample Location

SB-105

p. 1 of 1



Soil Boring






Groundwater & Environmental Services, Inc.

ID NO. SB-106

Page 1 of 1

PROJECT: NYSDEC Niagara Highway Garage SURFACE ELEV.: NA TOTAL DEPTH: 8'
ADDRESS: 7105 Lockport Road, Niagara Falls, NY WATER DEPTH: NA CASING EL.: NA
JOB NO. 0901588 BOREHOLE DIA.: 2" WELL DIA.: NA

Logged By: Eric Popken Drilling Method: Geoprobe (sampling)
Dates Drilled: 9/22/14 Sampling Method: Macro Core
Drilling Company: TREC Environmental Inc. Soil Class. System: Burmister
Drill Rig Type: Geoprobe 6620 DT Field Screening: MiniRAE 2000 PID w/10.6 eV Lamp

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec.	SAMPLE LITHOLOGY	Comments	COMPLETION DETAILS
0	0-6"	NA	NA	100%	 Fill debris, black	SB-106 (6"-2') sampled for lab analysis	NA
	6"-2'	0.0	NA	100%	 Fill, white amorphous material, odor, dry to moist		
	2-4'	0.0	NA	100%	 Clay, brown, hard		
	4-6'	0.0	NA	100%	 Clay, brown, hard		
5							
	6-8'	0.0	NA	100%	 Silty sand, brown, fine to coarse sand, fine to coarse gravel, trace clay, moist		



Location:

Northing/Latitude: NA
Easting/Longitude: NA
Horizontal Datum: NA
Vertical Datum: NA

General Comments:

ID = Inner Diameter
HSA = Hollow Stem Auger
NA = Not Applicable / Not Recorded

Symbol Key:

Apparent Water Level 
Lab Sample Location 



Soil Boring

Groundwater & Environmental Services, Inc.

ID NO.: SB-107

Page 1 of 1

PROJECT: NYSDEC Niagara Highway Garage
ADDRESS: 7105 Lockport Road, Niagara Falls, NY
JOB NO.: 0901588

SURFACE ELEV.: NA
WATER DEPTH: NA
BOREHOLE DIAM.: 2"

TOTAL DEPTH: 4'
CASING ELEV.: NA
WELL DIAM.: NA

Logged By: Eric Popken
Dates Drilled: 9/22/14
Drilling Company: TREC Environmental Inc.
Drill Rig Type: Geoprobe 6620 DT

Drilling Method: Geoprobe (sampling)
Sampling Method: Macro Core
Soil Class. System: Burmister
Field Screening: MiniRAE 2000 PID w/10.6 eV Lamp

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec.	SAMPLE LITHOLOGY	COMMENTS	COMPLETION DETAILS
0	0-3"	NA	NA	100%	Gravel	SB-107 (3"-1.5') sampled for lab analysis	NA
	3"-1.5'	0.0	NA	100%	Fill, white amorphous material, debris, sand, gravel, brick fragments, dry to moist		
	1.5-4'	NA	NA	100%	Clay, brown, hard		
5							

Location:

Northing/Latitude: NA
Easting/Longitude: NA
Horizontal Datum: NA
Vertical Datum: NA

General Comments:

ID = Inner Diameter
HSA = Hollow Stem Auger
NA = Not Applicable / Not Recorded

Symbol Key:

Apparent Water Level
Lab Sample Location



Soil Boring





Groundwater & Environmental Services, Inc.

ID NO. SB-108

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PROJECT: NYSDEC Niagara Highway Garage SURFACE ELEV.: NA TOTAL DEPTH: 8'
ADDRESS: 7105 Lockport Road, Niagara Falls, NY WATER DEPTH: NA CASING EL.: NA
JOB NO. 0901588 BOREHOLE DIA.: 2" WELL DIA.: NA

Logged By: Eric Popken Drilling Method: Geoprobe (sampling)
Dates Drilled: 9/22/14 Sampling Method: Macro Core
Drilling Company: TREC Environmental Inc. Soil Class. System: Burmister
Drill Rig Type: Geoprobe 6620 DT Field Screening: MiniRAE 2000 PID w/10.6 eV Lamp

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec.	SAMPLE LITHOLOGY	Comments	COMPLETION DETAILS
0	0-1'	NA	NA	90%	 Fill, black, gravel, fine to coarse sand, trace debris	SB-108 (1-2') sampled for lab analysis	NA
	1-2'	0.0	NA	90%	 Fill, with white amorphous material, slight odor		
	2-4'	NA	NA	90%	 Clay, brown, trace gravel, hard, dry to moist		
	4-8'	0.0	NA	100%	 Clayey silt, brown, little fine to medium sand, dry to moist		
5							



Location:

Northing/Latitude: NA
Easting/Longitude: NA
Horizontal Datum: NA
Vertical Datum: NA

General Comments:

ID = Inner Diameter
HSA = Hollow Stem Auger
NA = Not Applicable / Not Recorded

Symbol Key:

Apparent Water Level 
Lab Sample Location 

SB-108

p. 1 of 1



Soil Boring

Groundwater & Environmental Services, Inc.

ID NO.: SB-109

Page 1 of 1




PROJECT: NYSDEC Niagara Highway Garage
ADDRESS: 7105 Lockport Road, Niagara Falls, NY
JOB NO.: 0901588

SURFACE ELEV.: NA
WATER DEPTH: NA
BOREHOLE DIAM.: 2"

TOTAL DEPTH: 4'
CASING ELEV.: NA
WELL DIAM.: NA

Logged By: Eric Popken
Dates Drilled: 9/22/14
Drilling Company: TREC Environmental Inc.
Drill Rig Type: Geoprobe 6620 DT

Drilling Method: Geoprobe (sampling)
Sampling Method: Macro Core
Soil Class. System: Burmister
Field Screening: MiniRAE 2000 PID w/10.6 eV Lamp

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec.	SAMPLE LITHOLOGY	COMMENTS	COMPLETION DETAILS
0	0-1'	NA	NA	100%	 Fill, gravel, black, no odor		NA
	1-2'	0.0	NA	100%	 Fill, white amorphous material, silt, gravel, moist	SB-109 (1-2') sampled for lab analysis	
	2-4'	NA	NA	100%	 Silty clay, brown, trace gravel, hard		
5							



Location:

Northing/Latitude: NA
Easting/Longitude: NA
Horizontal Datum: NA
Vertical Datum: NA

General Comments:

ID = Inner Diameter
HSA = Hollow Stem Auger
NA = Not Applicable / Not Recorded

Symbol Key:

Apparent Water Level 
Lab Sample Location 



Soil Boring






Groundwater & Environmental Services, Inc.

ID NO. SB-110

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PROJECT: NYSDEC Niagara Highway Garage SURFACE ELEV.: NA TOTAL DEPTH: 8'
 ADDRESS: 7105 Lockport Road, Niagara Falls, NY WATER DEPTH: NA CASING EL.: NA
 JOB NO. 0901588 BOREHOLE DIA.: 2" WELL DIA.: NA

Logged By: Eric Popken Drilling Method: Geoprobe (sampling)
 Dates Drilled: 9/22/14 Sampling Method: Macro Core
 Drilling Company: TREC Environmental Inc. Soil Class. System: Burmister
 Drill Rig Type: Geoprobe 6620 DT Field Screening: MiniRAE 2000 PID w/10.6 eV Lamp

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec.	SAMPLE LITHOLOGY	Comments	COMPLETION DETAILS
0	0-1'	NA	NA	90%	 Fill, brownish grey, sand and gravel, brick fragments, debris		NA
	1-2'	0.0	NA	90%	 Fill, with white amorphous material, dry	SB-110 (1-2') sampled for lab analysis	
	2-4'	0.0	NA	90%	 Silty clay, brown, hard, dry to moist		
	4-8'	0.0	NA	100%	 Silty clay, brown, hard		
5		0.0	NA		 Clayey silt, brown, little fine to coarse sand		

Location:
 Northing/Latitude: NA
 Easting/Longitude: NA
 Horizontal Datum: NA
 Vertical Datum: NA

General Comments:
 ID = Inner Diameter
 HSA = Hollow Stem Auger
 NA = Not Applicable / Not Recorded

Symbol Key:
 Apparent Water Level 
 Lab Sample Location 

SB-110

p. 1 of 1



Soil Boring

Groundwater & Environmental Services, Inc.

ID NO.: SB-111

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PROJECT: NYSDEC Niagara Highway Garage
ADDRESS: 7105 Lockport Road, Niagara Falls, NY
JOB NO.: 0901588

SURFACE ELEV.: NA
WATER DEPTH: NA
BOREHOLE DIAM.: 2"

TOTAL DEPTH: 4'
CASING ELEV.: NA
WELL DIAM.: NA

Logged By: Eric Popken
Dates Drilled: 9/22/14
Drilling Company: TREC Environmental Inc.
Drill Rig Type: Geoprobe 6620 DT

Drilling Method: Geoprobe (sampling)
Sampling Method: Macro Core
Soil Class. System: Burmister
Field Screening: MiniRAE 2000 PID w/10.6 eV Lamp

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec.	SAMPLE LITHOLOGY	COMMENTS	COMPLETION DETAILS
0	0-0.5'	NA	NA	100%	 Fill, gravel, brown		NA
	0.5-2'	0.0	NA	100%	 Fill, with white amorphous material, dry	SB-111 (0.5-2') sampled for lab analysis	
	2-4'	0.0	NA	100%	 Clay, brown, hard, moist		
5							



Location:

Northing/Latitude: NA
Easting/Longitude: NA
Horizontal Datum: NA
Vertical Datum: NA

General Comments:

ID = Inner Diameter
HSA = Hollow Stem Auger
NA = Not Applicable / Not Recorded

Symbol Key:

Apparent Water Level 
Lab Sample Location 



Soil Boring






Groundwater & Environmental Services, Inc.

ID NO. SB-112

Page 1 of 1

PROJECT: NYSDEC Niagara Highway Garage SURFACE ELEV.: NA TOTAL DEPTH: 8'
ADDRESS: 7105 Lockport Road, Niagara Falls, NY WATER DEPTH: NA CASING EL.: NA
JOB NO. 0901588 BOREHOLE DIA.: 2" WELL DIA.: NA

Logged By: Eric Popken Drilling Method: Geoprobe (sampling)
Dates Drilled: 9/22/14 Sampling Method: Macro Core
Drilling Company: TREC Environmental Inc. Soil Class. System: Burmister
Drill Rig Type: Geoprobe 6620 DT Field Screening: MiniRAE 2000 PID w/10.6 eV Lamp

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec.	SAMPLE LITHOLOGY	Comments	COMPLETION DETAILS
0	0-0.5'	NA	NA	100%	 Fill, dark brown	SB-112 (0.5-1') sampled for lab analysis	NA
	0.5-1'	0.0	NA	100%	 Fill, with white amorphous material, clayey silt, dry to moist		
	1-4'	0.0	NA	100%	 Silty clay, brown, dry to moist		
	4-6'	8.0	NA	100%	 Silty clay, brown, dry to moist		
5	6-8'	0.0	NA	100%	 Clayey silt, brown, trace gravel, trace fine to medium sand, appears to be till		



Location:

Northing/Latitude: NA
Easting/Longitude: NA
Horizontal Datum: NA
Vertical Datum: NA

General Comments:

ID = Inner Diameter
HSA = Hollow Stem Auger
NA = Not Applicable / Not Recorded

Symbol Key:

Apparent Water Level 
Lab Sample Location 



Soil Boring

Groundwater & Environmental Services, Inc.

ID NO.: SB-113

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PROJECT: NYSDEC Niagara Highway Garage
ADDRESS: 7105 Lockport Road, Niagara Falls, NY
JOB NO.: 0901588

SURFACE ELEV.: NA
WATER DEPTH: NA
BOREHOLE DIAM.: 2"

TOTAL DEPTH: 4'
CASING ELEV.: NA
WELL DIAM.: NA

Logged By: Eric Popken
Dates Drilled: 9/22/14
Drilling Company: TREC Environmental Inc.
Drill Rig Type: Geoprobe 6620 DT

Drilling Method: Geoprobe (sampling)
Sampling Method: Macro Core
Soil Class. System: Burmister
Field Screening: MiniRAE 2000 PID w/10.6 eV Lamp

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec.	SAMPLE LITHOLOGY	COMMENTS	COMPLETION DETAILS
0	0-1'	NA	NA	100%	 Fill, brown to black		NA
	1-2'	15.5	NA	100%	 Fill, trace white amorphous material	SB-113 (1-2') sampled for lab analysis	
	2-4'	0.1	NA	100%	 Silty clay, brown, hard		
5							



Location:

Northing/Latitude: NA
Easting/Longitude: NA
Horizontal Datum: NA
Vertical Datum: NA

General Comments:

ID = Inner Diameter
HSA = Hollow Stem Auger
NA = Not Applicable / Not Recorded

Symbol Key:

Apparent Water Level 
Lab Sample Location 



Soil Boring






Groundwater & Environmental Services, Inc.

ID NO. SB-114

Page 1 of 1

PROJECT: NYSDEC Niagara Highway Garage SURFACE ELEV.: NA TOTAL DEPTH: 8'
 ADDRESS: 7105 Lockport Road, Niagara Falls, NY WATER DEPTH: NA CASING EL.: NA
 JOB NO. 0901588 BOREHOLE DIA.: 2" WELL DIA.: NA

Logged By: Eric Popken Drilling Method: Geoprobe (sampling)
 Dates Drilled: 9/22/14 Sampling Method: Macro Core
 Drilling Company: TREC Environmental Inc. Soil Class. System: Burmister
 Drill Rig Type: Geoprobe 6620 DT Field Screening: MiniRAE 2000 PID w/10.6 eV Lamp

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec.	SAMPLE LITHOLOGY	Comments	COMPLETION DETAILS
0	0-1'	NA	NA	100%	 Fill, brown, gravel, fine to coarse clayey silt, trace debris	SB-114 (1-2') sampled for lab analysis	NA
	1-2'	12.6	NA	100%	 Fill, white amorphous material and fill		
	2-4'	0.1	NA	100%	 Clay, brown, hard		
	4-6'	0.0	NA	NA	 Clay, brown, hard		
5	6-8'	0.0	NA	NA	 Till, brown, silt and fine to coarse sand, trace gravel, dry to moist		



Location:

Northing/Latitude: NA
 Easting/Longitude: NA
 Horizontal Datum: NA
 Vertical Datum: NA

General Comments:

ID = Inner Diameter
 HSA = Hollow Stem Auger
 NA = Not Applicable / Not Recorded

Symbol Key:

Apparent Water Level 
 Lab Sample Location 



Soil Boring

Groundwater & Environmental Services, Inc.

ID NO.: SB-115

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PROJECT: NYSDEC Niagara Highway Garage
ADDRESS: 7105 Lockport Road, Niagara Falls, NY
JOB NO.: 0901588

SURFACE ELEV.: NA
WATER DEPTH: NA
BOREHOLE DIAM.: 2"

TOTAL DEPTH: 4'
CASING ELEV.: NA
WELL DIAM.: NA

Logged By: Eric Popken
Dates Drilled: 9/22/14
Drilling Company: TREC Environmental Inc.
Drill Rig Type: Geoprobe 6620 DT

Drilling Method: Geoprobe (sampling)
Sampling Method: Macro Core
Soil Class. System: Burmister
Field Screening: MiniRAE 2000 PID w/10.6 eV Lamp

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec.	SAMPLE LITHOLOGY	COMMENTS	COMPLETION DETAILS
0	0-1'	0.2	NA	100%	 Fill, gravel and fine to coarse sand, fine to coarse gravel, trace debris, dry to moist	No sample for lab analysis	NA
	1-2'	4.1	NA	100%	 Fill, white amorphous material		
	2-4'	0.0	NA	100%	 Clay, brown, hard		
5							



Location:

Northing/Latitude: NA
Easting/Longitude: NA
Horizontal Datum: NA
Vertical Datum: NA

General Comments:

ID = Inner Diameter
HSA = Hollow Stem Auger
NA = Not Applicable / Not Recorded

Symbol Key:

Apparent Water Level 
Lab Sample Location 



Soil Boring

Groundwater & Environmental Services, Inc.

ID NO.: SB-116

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PROJECT: NYSDEC Niagara Highway Garage
ADDRESS: 7105 Lockport Road, Niagara Falls, NY
JOB NO.: 0901588

SURFACE ELEV.: NA
WATER DEPTH: NA
BOREHOLE DIAM.: 2"

TOTAL DEPTH: 10'
CASING ELEV.: NA
WELL DIAM.: NA

Logged By: Eric Popken
Dates Drilled: 9/22/14
Drilling Company: TREC Environmental Inc.
Drill Rig Type: Geoprobe 6620 DT

Drilling Method: Geoprobe (sampling)
Sampling Method: Macro Core
Soil Class. System: Burmister
Field Screening: MiniRAE 2000 PID w/10.6 eV Lamp

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec.	SAMPLE LITHOLOGY	COMMENTS	COMPLETION DETAILS
0	0-2"	NA	NA	100%	Fill, gravel and hard clay	No sample for lab analysis	
	2-6"	5.5	NA	100%	Fill, with white amorphous material, dry		
	6"-4'	0.0	NA	100%	Clay, brown, hard		NA
	4-6'	0.0	NA	100%	Clay, brown, hard		
5							
	6-8'	NA	NA	100%	Till, brown		
	8-9.9'	NA	NA	100%	Till, brown		
						Refusal at 9.9'	
10							

Location:

Northing/Latitude: NA
Easting/Longitude: NA
Horizontal Datum: NA
Vertical Datum: NA

General Comments:

ID = Inner Diameter
HSA = Hollow Stem Auger
NA = Not Applicable / Not Recorded

Symbol Key:

Apparent Water Level
Lab Sample Location



Soil Boring

Groundwater & Environmental Services, Inc.

ID NO.: SB-117

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PROJECT: NYSDEC Niagara Highway Garage
ADDRESS: 7105 Lockport Road, Niagara Falls, NY
JOB NO.: 0901588

SURFACE ELEV.: NA
WATER DEPTH: NA
BOREHOLE DIAM.: 2"

TOTAL DEPTH: 4'
CASING ELEV.: NA
WELL DIAM.: NA

Logged By: Eric Popken
Dates Drilled: 9/22/14
Drilling Company: TREC Environmental Inc.
Drill Rig Type: Geoprobe 6620 DT

Drilling Method: Geoprobe (sampling)
Sampling Method: Macro Core
Soil Class. System: Burmister
Field Screening: MiniRAE 2000 PID w/10.6 eV Lamp

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec.	SAMPLE LITHOLOGY	COMMENTS	COMPLETION DETAILS
0	0-1.5'	0.8	NA	100%	 Fill, dark brown, clayey silt, trace debris	No sample for lab analysis	NA
	1.5-2'	8.9	NA	100%	 Fill, white amorphous material and fill		
	2-4'	0.0	NA	100%	 Clay, brown, hard		
5							



Location:

Northing/Latitude: NA
Easting/Longitude: NA
Horizontal Datum: NA
Vertical Datum: NA

General Comments:

ID = Inner Diameter
HSA = Hollow Stem Auger
NA = Not Applicable / Not Recorded

Symbol Key:

Apparent Water Level 
Lab Sample Location 



Soil Boring

Groundwater & Environmental Services, Inc.





ID NO. SB-118

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PROJECT: NYSDEC Niagara Highway Garage SURFACE ELEV.: NA TOTAL DEPTH: 8'
ADDRESS: 7105 Lockport Road, Niagara Falls, NY WATER DEPTH: NA CASING EL.: NA
JOB NO. 0901588 BOREHOLE DIA.: 2" WELL DIA.: NA



Logged By: Eric Popken Drilling Method: Geoprobe (sampling)
Dates Drilled: 9/22/14 Sampling Method: Macro Core
Drilling Company: TREC Environmental Inc. Soil Class. System: Burmister
Drill Rig Type: Geoprobe 6620 DT Field Screening: MiniRAE 2000 PID w/10.6 eV Lamp

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec.	SAMPLE LITHOLOGY	Comments	COMPLETION DETAILS
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0	0-2.5'	0.8	NA	75%		Fill, dark brown, fine to coarse sand, fine to coarse gravel, trace organics, large brick fragments, no white material	No sample for lab analysis	NA
	2.5-4'	0.0	NA	75%		Clay		
	4-6'	0.0	NA	100%		Clay		
5	6-8'	0.0	NA	100%		Till		

Location:
Northing/Latitude: NA
Easting/Longitude: NA
Horizontal Datum: NA
Vertical Datum: NA

General Comments:
ID = Inner Diameter
HSA = Hollow Stem Auger
NA = Not Applicable / Not Recorded

Symbol Key:
Apparent Water Level 
Lab Sample Location 



Soil Boring

Groundwater & Environmental Services, Inc.

ID NO.: SB-119

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PROJECT: NYSDEC Niagara Highway Garage
ADDRESS: 7105 Lockport Road, Niagara Falls, NY
JOB NO.: 0901588

SURFACE ELEV.: NA
WATER DEPTH: NA
BOREHOLE DIAM.: 2"

TOTAL DEPTH: 4'
CASING ELEV.: NA
WELL DIAM.: NA

Logged By: Eric Popken
Dates Drilled: 9/23/14
Drilling Company: TREC Environmental Inc.
Drill Rig Type: Geoprobe 6620 DT

Drilling Method: Geoprobe (sampling)
Sampling Method: Macro Core
Soil Class. System: Burmister
Field Screening: MiniRAE 2000 PID w/10.6 eV Lamp

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec.	SAMPLE LITHOLOGY	COMMENTS	COMPLETION DETAILS
0	0-2'	0.3	NA	100%	 Fill, dark brown, fine to coarse sand, fine to coarse gravel, trace organics, trace debris, no white material	No sample for lab analysis	NA
	2-4'	0.4	NA	100%	 Clay, brown, hard, dry to moist		
5							



Location:

Northing/Latitude: NA
Easting/Longitude: NA
Horizontal Datum: NA
Vertical Datum: NA

General Comments:

ID = Inner Diameter
HSA = Hollow Stem Auger
NA = Not Applicable / Not Recorded

Symbol Key:

Apparent Water Level 
Lab Sample Location 



Soil Boring

Groundwater & Environmental Services, Inc.

ID NO.: SB-120

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PROJECT: NYSDEC Niagara Highway Garage
ADDRESS: 7105 Lockport Road, Niagara Falls, NY
JOB NO.: 0901588

SURFACE ELEV.: NA
WATER DEPTH: NA
BOREHOLE DIAM.: 2"

TOTAL DEPTH: 7.4'
CASING ELEV.: NA
WELL DIAM.: NA

Logged By: Eric Popken
Dates Drilled: 9/23/14
Drilling Company: TREC Environmental Inc.
Drill Rig Type: Geoprobe 6620 DT

Drilling Method: Geoprobe (sampling)
Sampling Method: Macro Core
Soil Class. System: Burmister
Field Screening: MiniRAE 2000 PID w/10.6 eV Lamp

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec.	SAMPLE LITHOLOGY	COMMENTS	COMPLETION DETAILS
0	0-2'	0.0	NA	80%	Fill, gravel, fine to coarse gravel, fine to coarse sand, trace debris, trace organics, no white material, dry to moist	No sample for lab analysis	NA
	2-4'	0.0	NA	80%	Clay, brown, trace fine gravel, hard		
	4-7.4'	0.0	NA	NA	Till, brown, fine to coarse sand, clayey silt, trace gravel, moist, possible bedrock in show, appears to be dolostone		
5						Refusal at 7.4'	

Location:

Northing/Latitude: NA
Easting/Longitude: NA
Horizontal Datum: NA
Vertical Datum: NA

General Comments:

ID = Inner Diameter
HSA = Hollow Stem Auger
NA = Not Applicable / Not Recorded

Symbol Key:

Apparent Water Level
Lab Sample Location



Soil Boring

Groundwater & Environmental Services, Inc.

ID NO.: SB-121

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PROJECT: NYSDEC Niagara Highway Garage
ADDRESS: 7105 Lockport Road, Niagara Falls, NY
JOB NO.: 0901588

SURFACE ELEV.: NA
WATER DEPTH: NA
BOREHOLE DIAM.: 2"

TOTAL DEPTH: 4'
CASING ELEV.: NA
WELL DIAM.: NA

Logged By: Eric Popken
Dates Drilled: 9/23/14
Drilling Company: TREC Environmental Inc.
Drill Rig Type: Geoprobe 6620 DT

Drilling Method: Geoprobe (sampling)
Sampling Method: Macro Core
Soil Class. System: Burmister
Field Screening: MiniRAE 2000 PID w/10.6 eV Lamp

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec.	SAMPLE LITHOLOGY	COMMENTS	COMPLETION DETAILS
0	0-2'	0.0	NA	100%	Fill, dark brown, fine to coarse sand, fine to coarse gravel, trace to little silt, trace debris, no white material, dry	No sample for lab analysis	NA
	2-4'	0.0	NA	100%	Clay, brown, trace gravel, hard, dry to moist		
5							

Location:

Northing/Latitude: NA
Easting/Longitude: NA
Horizontal Datum: NA
Vertical Datum: NA

General Comments:

ID = Inner Diameter
HSA = Hollow Stem Auger
NA = Not Applicable / Not Recorded

Symbol Key:

Apparent Water Level
Lab Sample Location





PROJECT: NYSDEC Niagara Highway Garage
ADDRESS: 7105 Lockport Road, Niagara Falls, NY
JOB NO.: 0901588

SURFACE ELEV.: NA
WATER DEPTH: NA
BOREHOLE DIAM.: 2"

TOTAL DEPTH: 8'
CASING ELEV.: NA
WELL DIAM.: NA

Logged By: **Eric Popken**
 Dates Drilled: **9/23/14**
 Drilling Company: **TREC Environmental Inc.**
 Drill Rig Type: **Geoprobe 6620 DT**

Drilling Method:	Geoprobe (sampling)
Sampling Method:	Macro Core
Soil Class. System:	Burmister
Field Screening:	MiniRAE 2000 PID w/10.6 eV Lamp

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec.	SAMPLE LITHOLOGY		COMMENTS	COMPLETION DETAILS	
0	0-2'	0.1	NA	100%		Fill, gravel, little fine to coarse silty sand, trace brick fragments, dry	No sample for lab analysis	NA	
	2-4'	0.0	NA	100%		Clay, brown, hard			
	4-8'	0.0	NA	100%		Clay, brown, hard			
									



Location:

Northing/Latitude: **NA**
 Easting/Longitude: **NA**
 Horizontal Datum: **NA**
 Vertical Datum: **NA**

General Comments:

ID = Inner Diameter
HSA = Hollow Stem Auger
NA = Not Applicable / Not Recorded

Symbol Key:

Apparent Water Level 
 Lab Sample Location 



Soil Boring

Groundwater & Environmental Services, Inc.

ID NO.: SB-123

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PROJECT: NYSDEC Niagara Highway Garage
ADDRESS: 7105 Lockport Road, Niagara Falls, NY
JOB NO.: 0901588

SURFACE ELEV.: NA
WATER DEPTH: NA
BOREHOLE DIAM.: 2"

TOTAL DEPTH: 4'
CASING ELEV.: NA
WELL DIAM.: NA

Logged By: Eric Popken
Dates Drilled: 9/23/14
Drilling Company: TREC Environmental Inc.
Drill Rig Type: Geoprobe 6620 DT

Drilling Method: Geoprobe (sampling)
Sampling Method: Macro Core
Soil Class. System: Burmister
Field Screening: MiniRAE 2000 PID w/10.6 eV Lamp

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec.	SAMPLE LITHOLOGY	COMMENTS	COMPLETION DETAILS
0	0-2'	0.0	NA	100%	Fill, dark brown, fine to coarse sand, fine to coarse gravel, trace to little silt, trace debris, no white material, dry	No sample for lab analysis	NA
	2-4'	NR	NA	100%	Clay, brown, trace gravel, hard, dry to moist		
5							

Location:

Northing/Latitude: NA
Easting/Longitude: NA
Horizontal Datum: NA
Vertical Datum: NA

General Comments:

ID = Inner Diameter
HSA = Hollow Stem Auger
NA = Not Applicable / Not Recorded

Symbol Key:

Apparent Water Level
Lab Sample Location



Soil Boring

Groundwater & Environmental Services, Inc.

ID NO.: SB-124

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PROJECT: NYSDEC Niagara Highway Garage
ADDRESS: 7105 Lockport Road, Niagara Falls, NY
JOB NO.: 0901588

SURFACE ELEV.: NA
WATER DEPTH: NA
BOREHOLE DIAM.: 2"

TOTAL DEPTH: 10'
CASING ELEV.: NA
WELL DIAM.: NA

Logged By: Eric Popken
Dates Drilled: 9/23/14
Drilling Company: TREC Environmental Inc.
Drill Rig Type: Geoprobe 6620 DT

Drilling Method: Geoprobe (sampling)
Sampling Method: Macro Core
Soil Class. System: Burmister
Field Screening: MiniRAE 2000 PID w/10.6 eV Lamp

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec.	SAMPLE LITHOLOGY	COMMENTS	COMPLETION DETAILS
0	0-6"	NR	NA	NR	 Gravel	No sample for lab analysis	
	6"-4'	0.0	NA	NR	 Clay, brown, hard, dry		NA
	4-6'	0.0	NA	NR	 Clay, brown, hard, dry		
5							
	6-8'	0.0	NA	NR	 Till		
	8-10'	NR	NA	NR	 Till		
10						Refusal at 10 feet bgs	



Location:

Northing/Latitude: NA
Easting/Longitude: NA
Horizontal Datum: NA
Vertical Datum: NA

General Comments:

ID = Inner Diameter
HSA = Hollow Stem Auger
NA = Not Applicable / Not Recorded

Symbol Key:

Apparent Water Level 
Lab Sample Location 



Soil Boring

Groundwater & Environmental Services, Inc.

ID NO.: SB-125

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PROJECT: NYSDEC Niagara Highway Garage
ADDRESS: 7105 Lockport Road, Niagara Falls, NY
JOB NO.: 0901588

SURFACE ELEV.: NA
WATER DEPTH: NA
BOREHOLE DIAM.: 2"

TOTAL DEPTH: 4'
CASING ELEV.: NA
WELL DIAM.: NA

Logged By: Eric Popken
Dates Drilled: 9/23/14
Drilling Company: TREC Environmental Inc.
Drill Rig Type: Geoprobe 6620 DT

Drilling Method: Geoprobe (sampling)
Sampling Method: Macro Core
Soil Class. System: Burmister
Field Screening: MiniRAE 2000 PID w/10.6 eV Lamp

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec.	SAMPLE LITHOLOGY	COMMENTS	COMPLETION DETAILS
0	0-1'	0.0	NA	90%	 Fill, dark brown, gravel and silt, dry to moist	No sample for lab analysis	NA
	1-2'	18.6	NA	90%	 Fil and white amorphous material and clayey silt, dry		
	2-4'	0.0	NA	90%	 Silty clay, dark brown		
5							



Location:

Northing/Latitude: NA
Easting/Longitude: NA
Horizontal Datum: NA
Vertical Datum: NA

General Comments:

ID = Inner Diameter
HSA = Hollow Stem Auger
NA = Not Applicable / Not Recorded

Symbol Key:

Apparent Water Level 
Lab Sample Location 



Soil Boring

Groundwater & Environmental Services, Inc.

ID NO.: SB-126

Page 1 of 1



PROJECT: NYSDEC Niagara Highway Garage
ADDRESS: 7105 Lockport Road, Niagara Falls, NY
JOB NO.: 0901588

SURFACE ELEV.: NA
WATER DEPTH: NA
BOREHOLE DIAM.: 2"

TOTAL DEPTH: 4'
CASING ELEV.: NA
WELL DIAM.: NA

Logged By: Eric Popken
Dates Drilled: 9/23/14
Drilling Company: TREC Environmental Inc.
Drill Rig Type: Geoprobe 6620 DT

Drilling Method: Geoprobe (sampling)
Sampling Method: Macro Core
Soil Class. System: Burmister
Field Screening: MiniRAE 2000 PID w/10.6 eV Lamp

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec.	SAMPLE LITHOLOGY	COMMENTS	COMPLETION DETAILS
0	0-2'	0.1	NA	90%	 Fill, gravel and clayey silt, trace organics	No sample for lab analysis	NA
	2-4'	0.2	NA	90%	 Trace white material Silty clay, dark brown		
5							



Location:

Northing/Latitude: NA
Easting/Longitude: NA
Horizontal Datum: NA
Vertical Datum: NA

General Comments:

ID = Inner Diameter
HSA = Hollow Stem Auger
NA = Not Applicable / Not Recorded

Symbol Key:

Apparent Water Level 
Lab Sample Location 



Soil Boring

Groundwater & Environmental Services, Inc.

ID NO.: SB-127

Page 1 of 1






PROJECT: NYSDEC Niagara Highway Garage
ADDRESS: 7105 Lockport Road, Niagara Falls, NY
JOB NO.: 0901588

SURFACE ELEV.: NA
WATER DEPTH: NA
BOREHOLE DIAM.: 2"

TOTAL DEPTH: 8'
CASING ELEV.: NA
WELL DIAM.: NA

Logged By: Eric Popken
Dates Drilled: 9/23/14
Drilling Company: TREC Environmental Inc.
Drill Rig Type: Geoprobe 6620 DT

Drilling Method: Geoprobe (sampling)
Sampling Method: Macro Core
Soil Class. System: Burmister
Field Screening: MiniRAE 2000 PID w/10.6 eV Lamp

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec.	SAMPLE LITHOLOGY	COMMENTS	COMPLETION DETAILS
0	0-1'	NR	NA	100%	 Gravel and fill		NA
	1-3'	9.9	NA	100%	 Fill with white amorphous material	SB-127 (1-3') sampled for lab analysis	
	3-4'	NR	NA	100%	 Clay, dark brown		
	4-6'	0.4	NA	100%	 Clay, dark brown		
5	6-8'	0.4	NA	100%	 Till		



Location:

Northing/Latitude: NA
Easting/Longitude: NA
Horizontal Datum: NA
Vertical Datum: NA

General Comments:

ID = Inner Diameter
HSA = Hollow Stem Auger
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Symbol Key:

Apparent Water Level 
Lab Sample Location 



Soil Boring

Groundwater & Environmental Services, Inc.

ID NO.: SB-128

Page 1 of 1



PROJECT: NYSDEC Niagara Highway Garage
ADDRESS: 7105 Lockport Road, Niagara Falls, NY
JOB NO.: 0901588

SURFACE ELEV.: NA
WATER DEPTH: NA
BOREHOLE DIAM.: 2"

TOTAL DEPTH: 4'
CASING ELEV.: NA
WELL DIAM.: NA

Logged By: Eric Popken
Dates Drilled: 9/23/14
Drilling Company: TREC Environmental Inc.
Drill Rig Type: Geoprobe 6620 DT

Drilling Method: Geoprobe (sampling)
Sampling Method: Macro Core
Soil Class. System: Burmister
Field Screening: MiniRAE 2000 PID w/10.6 eV Lamp

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec.	SAMPLE LITHOLOGY	COMMENTS	COMPLETION DETAILS
0	0-2'	NR	NA	NR	 Gravel and Fill	No sample for lab analysis	NA
					Trace white material		
	2-4'	NR	NA	NR	 Clay		
5							



Location:

Northing/Latitude: NA
Easting/Longitude: NA
Horizontal Datum: NA
Vertical Datum: NA

General Comments:

ID = Inner Diameter
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Apparent Water Level 
Lab Sample Location 



Soil Boring

Groundwater & Environmental Services, Inc.

ID NO.: SB-129

Page 1 of 1



PROJECT: NYSDEC Niagara Highway Garage
ADDRESS: 7105 Lockport Road, Niagara Falls, NY
JOB NO.: 0901588

SURFACE ELEV.: NA
WATER DEPTH: NA
BOREHOLE DIAM.: 2"

TOTAL DEPTH: 4'
CASING ELEV.: NA
WELL DIAM.: NA

Logged By: Eric Popken
Dates Drilled: 9/23/14
Drilling Company: TREC Environmental Inc.
Drill Rig Type: Geoprobe 6620 DT

Drilling Method: Geoprobe (sampling)
Sampling Method: Macro Core
Soil Class. System: Burmister
Field Screening: MiniRAE 2000 PID w/10.6 eV Lamp

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec.	SAMPLE LITHOLOGY	COMMENTS	COMPLETION DETAILS
0	0-2'	NR	NA	NR	 Gravel and Fill	No sample for lab analysis	NA
	2-4'	NR	NA	NR	 Clay	Trace white material	
5							



Location:

Northing/Latitude: NA
Easting/Longitude: NA
Horizontal Datum: NA
Vertical Datum: NA

General Comments:

ID = Inner Diameter
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NA = Not Applicable / Not Recorded

Symbol Key:

Apparent Water Level 
Lab Sample Location 



Soil Boring

Groundwater & Environmental Services, Inc.

ID NO.: SB-130

Page 1 of 1



PROJECT: NYSDEC Niagara Highway Garage
ADDRESS: 7105 Lockport Road, Niagara Falls, NY
JOB NO.: 0901588

SURFACE ELEV.: NA
WATER DEPTH: NA
BOREHOLE DIAM.: 2"

TOTAL DEPTH: 4'
CASING ELEV.: NA
WELL DIAM.: NA

Logged By: Eric Popken
Dates Drilled: 9/23/14
Drilling Company: TREC Environmental Inc.
Drill Rig Type: Geoprobe 6620 DT

Drilling Method: Geoprobe (sampling)
Sampling Method: Macro Core
Soil Class. System: Burmister
Field Screening: MiniRAE 2000 PID w/10.6 eV Lamp

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec.	SAMPLE LITHOLOGY	COMMENTS	COMPLETION DETAILS
0	0-2'	NR	NA	100%	 Gravel and silty fill	No sample for lab analysis	NA
	2-4'	0.0	NA	100%	 Clay, brown, hard		
5							



Location:

Northing/Latitude: NA
Easting/Longitude: NA
Horizontal Datum: NA
Vertical Datum: NA

General Comments:

ID = Inner Diameter
HSA = Hollow Stem Auger
NA = Not Applicable / Not Recorded

Symbol Key:

Apparent Water Level 
Lab Sample Location 



Soil Boring

Groundwater & Environmental Services, Inc.

ID NO.: SB-131

Page 1 of 1



PROJECT: NYSDEC Niagara Highway Garage
ADDRESS: 7105 Lockport Road, Niagara Falls, NY
JOB NO.: 0901588

SURFACE ELEV.: NA
WATER DEPTH: NA
BOREHOLE DIAM.: 2"

TOTAL DEPTH: 4'
CASING ELEV.: NA
WELL DIAM.: NA

Logged By: Eric Popken
Dates Drilled: 9/23/14
Drilling Company: TREC Environmental Inc.
Drill Rig Type: Geoprobe 6620 DT

Drilling Method: Geoprobe (sampling)
Sampling Method: Macro Core
Soil Class. System: Burmister
Field Screening: MiniRAE 2000 PID w/10.6 eV Lamp

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec.	SAMPLE LITHOLOGY	COMMENTS	COMPLETION DETAILS
0	0-2'	NR	NA	100%	 Gravel and silty fill	No sample for lab analysis	NA
	2-4'	0.0	NA	100%	 Clay, brown, hard		
5							



Location:

Northing/Latitude: NA
Easting/Longitude: NA
Horizontal Datum: NA
Vertical Datum: NA

General Comments:

ID = Inner Diameter
HSA = Hollow Stem Auger
NA = Not Applicable / Not Recorded

Symbol Key:

Apparent Water Level 
Lab Sample Location 



Soil Boring

Groundwater & Environmental Services, Inc.

ID NO.: SB-132

Page 1 of 1



PROJECT: NYSDEC Niagara Highway Garage
ADDRESS: 7105 Lockport Road, Niagara Falls, NY
JOB NO.: 0901588

SURFACE ELEV.: NA
WATER DEPTH: NA
BOREHOLE DIAM.: 2"

TOTAL DEPTH: 4'
CASING ELEV.: NA
WELL DIAM.: NA

Logged By: Eric Popken
Dates Drilled: 9/23/14
Drilling Company: TREC Environmental Inc.
Drill Rig Type: Geoprobe 6620 DT

Drilling Method: Geoprobe (sampling)
Sampling Method: Macro Core
Soil Class. System: Burmister
Field Screening: MiniRAE 2000 PID w/10.6 eV Lamp

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec.	SAMPLE LITHOLOGY	COMMENTS	COMPLETION DETAILS
0	0-2'	NR	NA	100%	 Gravel and silty fill	No sample for lab analysis	NA
	2-4'	0.0	NA	100%	 Clay, brown, hard		
5							



Location:

Northing/Latitude: NA
Easting/Longitude: NA
Horizontal Datum: NA
Vertical Datum: NA

General Comments:

ID = Inner Diameter
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Symbol Key:

Apparent Water Level 
Lab Sample Location 



Soil Boring

Groundwater & Environmental Services, Inc.

ID NO.: SB-133

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PROJECT: NYSDEC Niagara Highway Garage
ADDRESS: 7105 Lockport Road, Niagara Falls, NY
JOB NO.: 0901588

SURFACE ELEV.: NA
WATER DEPTH: NA
BOREHOLE DIAM.: 2"

TOTAL DEPTH: 4'
CASING ELEV.: NA
WELL DIAM.: NA

Logged By: Eric Popken
Dates Drilled: 9/23/14
Drilling Company: TREC Environmental Inc.
Drill Rig Type: Geoprobe 6620 DT

Drilling Method: Geoprobe (sampling)
Sampling Method: Macro Core
Soil Class. System: Burmister
Field Screening: MiniRAE 2000 PID w/10.6 eV Lamp

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec.	SAMPLE LITHOLOGY	COMMENTS	COMPLETION DETAILS
0	0-2'	NR	NA	100%	 Gravel and silty fill	No sample for lab analysis	NA
	2-4'	0.0	NA	100%	 Clay, brown, hard		
5							



Location:

Northing/Latitude: NA
Easting/Longitude: NA
Horizontal Datum: NA
Vertical Datum: NA

General Comments:

ID = Inner Diameter
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Symbol Key:

Apparent Water Level 
Lab Sample Location 



Soil Boring

Groundwater & Environmental Services, Inc.

ID NO.: SB-134

Page 1 of 1

PROJECT: NYSDEC Niagara Highway Garage
ADDRESS: 7105 Lockport Road, Niagara Falls, NY
JOB NO.: 0901588

SURFACE ELEV.: NA
WATER DEPTH: NA
BOREHOLE DIAM.: 2"

TOTAL DEPTH: 4'
CASING ELEV.: NA
WELL DIAM.: NA

Logged By: Eric Popken
Dates Drilled: 9/23/14
Drilling Company: TREC Environmental Inc.
Drill Rig Type: Geoprobe 6620 DT

Drilling Method: Geoprobe (sampling)
Sampling Method: Macro Core
Soil Class. System: Burmister
Field Screening: MiniRAE 2000 PID w/10.6 eV Lamp

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec.	SAMPLE LITHOLOGY	COMMENTS	COMPLETION DETAILS
0	0-6"	NR	NA	100%	Asphalt	No sample for lab analysis	NA
	6"-2'	NR	NA	100%	Gravel and silty fill		
	2-4'	0.0	NA	100%	Clay, brown, hard		
5							

Location:

Northing/Latitude: NA
Easting/Longitude: NA
Horizontal Datum: NA
Vertical Datum: NA

General Comments:

ID = Inner Diameter
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NA = Not Applicable / Not Recorded

Symbol Key:

Apparent Water Level
Lab Sample Location



Soil Boring

Groundwater & Environmental Services, Inc.

ID NO.: SB-135

Page 1 of 1

PROJECT: NYSDEC Niagara Highway Garage
ADDRESS: 7105 Lockport Road, Niagara Falls, NY
JOB NO.: 0901588

SURFACE ELEV.: NA
WATER DEPTH: NA
BOREHOLE DIAM.: 2"

TOTAL DEPTH: 4'
CASING ELEV.: NA
WELL DIAM.: NA

Logged By: Eric Popken
Dates Drilled: 9/23/14
Drilling Company: TREC Environmental Inc.
Drill Rig Type: Geoprobe 6620 DT

Drilling Method: Geoprobe (sampling)
Sampling Method: Macro Core
Soil Class. System: Burmister
Field Screening: MiniRAE 2000 PID w/10.6 eV Lamp

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec.	SAMPLE LITHOLOGY	COMMENTS	COMPLETION DETAILS
0	0-6"	NR	NA	100%	Asphalt	No sample for lab analysis	NA
	6"-2'	NR	NA	100%	Gravel and silty fill		
	2-4'	0.0	NA	100%	Clay, brown, hard		
5							

Location:

Northing/Latitude: NA
Easting/Longitude: NA
Horizontal Datum: NA
Vertical Datum: NA

General Comments:

ID = Inner Diameter
HSA = Hollow Stem Auger
NA = Not Applicable / Not Recorded

Symbol Key:

Apparent Water Level
Lab Sample Location